CLAIMS

1. A pharmaceutical composition used for treatment or prevention of brain injury comprising an inhbitor for hematopoietic prostaglandin D synthase (H-PGDS) as an active ingredient.

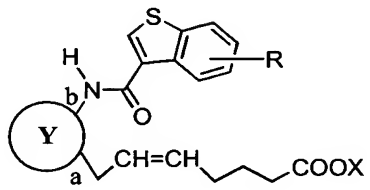
2. The pharmaceutical composition according to claim 1, wherein the H-PGDS inhibitor is 4-benzhydryloxy-1-{3-(1H-tetrazol-5-yl)-propyl}piperidine, 1-amino-4-{4-[4-chloro-6-(2-sulfo-phenylamino)-[1,3,5]-triazine-2-ylmethyl]-3-sulfo-phenylamino}-9,10-dioxo-9,10-dihydro-anthracene-2-sulfonic acid, 1-amino-4-(4-sulfamoylanilino)-anthraquinone-2-sulfonic acid or pharmaceutically acceptable salt thereof or hydrate thereof or 2-(2'-benzothiazolyl)-5-styryl-3-(4'-phthalhydrazidyl)-tetrazolium chloride or a hydrate thereof.

3. A pharmaceutical composition used for treatment or prevention of brain injury comprising an antagonist for prostaglandin D receptor as an effective ingredient.

4. The pharmaceutical composition according to claim 3, wherein the antagonist for a prostaglandin D receptor is (±)-3-benzyl-5-(6-carboxyhexyl)-1-(2-cyclohexyl-2-hydroxyethylamino)-hydantoin, (+)-(3R)-3-(4-fluorobenzenesulfonamide)-1,2,3,4-tetrahydrocarbazol-9-propionic acid, (Z)-7-[(1R,2R,3S,5S)-2-(5-hydroxybenzo[b]thiophene-3-ylcarbonylamino)-10-norpinan-3-yl]hepta-5-enoic acid, (Z)-7-[(1R,2R,3S,5S)-2-(benzo[b]-thiophene-3-ylcarbonylamino)-10-norpinan-3-yl]hepta-5-enoic acid and pharmaceutically acceptable salt thereof and hydrate

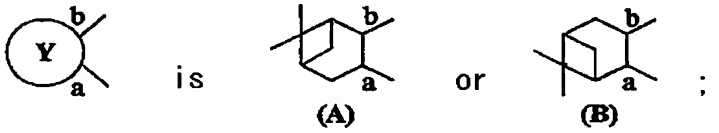
thereof.

5. The pharmaceutical composition according to claim 3, wherein the antagonist for a prostaglandin D receptor is a compound represented by the formula (I)



(I)

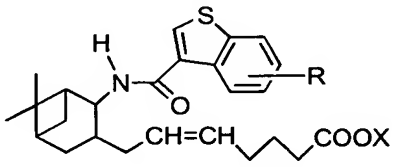
(wherein,



;

R is hydrogen, alkyl, alkoxy, halogen, hydroxyl, acyloxy or optionally substituted arylsulfonyloxy; X is hydrogen or alkyl; and a double bond of an α-chain is in an E-configuration or a Z-configuration) or a pharmaceutically acceptable salt or a hydrate thereof.

6. The pharmaceutical composition according to claim 3, wherein the antagonist for a prostaglandin D receptor is a compound represented by the formula (IA)

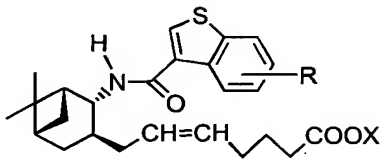


(IA)

(wherein R and X have the same meanings as defined already and a double bond of an α-chain is in an E-configuration or a Z-configuration) or a pharmaceutically acceptable salt or a hydrate thereof.

7. The pharmaceutical composition according to claim 3,

wherein the antagonist for a prostaglandin D receptor is a compound represented by the formula (IA-a)



(IA-a)

(wherein R and X have the same meanings as defined already and a double bond of an α-chain is in an E-configuration or a Z-configuration) or a pharmaceutically acceptable salt or a hydrate thereof.

8. A method for treatment of brain injury comprising administration of a hematopoietic prostaglandin D synthase (H-PGDS) inhibitor of an effective dose.

9. A use of a hematopoietic prostaglandin D synthase (H-PGDS) inhibitor for the manufacture of a drug for treatment of brain injury.

10. A method for treatment of brain injury comprising administration of a prostaglandin D receptor antagonist of an effective dose.

11. A use of a prostaglandin D receptor antagonist for the manufacture of a drug for treatment of brain injury.

12. A pharmaceutical composition to be used for treatment or prevention of brain injury comprising a hematopoietic prostaglandin D synthase (H-PGDS) inhibitor and a prostaglandin D receptor antagonist as effective ingredients.

13. A method of screening of a compound used for treatment or prevention of brain injury comprising that

1) trauma is applied to brain of a transgenic mouse where human H-PGDS is over-expressed,

2) a candidate compound is administered to the transgenic

mouse before or after applying the trauma and

3) a state of the trauma in the mouse is compared with a state of a transgenic mouse to which no candidate compound is administered.